

IN THE ABSTRACT

A stereoscopic display device comprises a display device for displaying a pixellated display image; and a stereoscopic conversion screen. The conversion screen comprises an array of light guiding members, each light guiding member being associated with an underlying pixel or sub-array of pixels, and wherein alternate rows of light guiding members are arranged to direct light from the associated pixel or sub-array of pixels to different viewing positions. The invention provides spatial multiplexing of images into successive horizontal rows, rather than in vertical columns, as in common practice. This can resolve a looming problem so that a stereoscopic effect is perceived across the full width of the 2D image. This spatial multiplexing screen may be combined with a dynamic temporal multiplexing arrangement to increase the number of views. The invention also relates to such a dynamic temporal multiplexing system. The display device may be switchable between 2D and 3D modes of operation by using electro chromic materials, or by removing the conversion screen.